NFPA 51-2002 Design and Installation of Oxygen-Fuel Gas System for Welding, Cutting, and Allied Processes

NFPA 51-2002 Standard for Design and Installation of Oxygen-Fuel Gas System for Welding, Cutting and Allied Processes (The following Indiana Amendments are reprinted here from the Indiana government web site for your convenience. We have not edited or reformatted these pages, nor have we reviewed the for accuracy. We assume them to be identical to the official amendments as originally printed in the Indiana Register. We make no stated or implied claim as to their accuracy.)

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675 IAC 28-1-18 NFPA 51; standard for the design and installation of oxygen-fuel gas system for welding, cutting, and allied processes

Authority: IC 22-13-2-2; IC 22-13-2-13
Affected: IC 10-19-2; IC 22-12; IC 22-13; IC 22-14; IC 22-15; IC 36-7

Sec. 18. (a) That certain document, being titled as NFPA 51, Standard for the Design and Installation of Oxygen-Fuel Gas System for Welding, Cutting and Allied Processes, 2002 Edition, published by the National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101, be and the same is hereby adopted by reference, as if fully set out in this section, except as revised hereafter.

(b) The following documents referenced in NFPA 51 are not adopted, are not enforceable, and are for information purposes only:

(1) NFPA 54.
(2) NFPA 101.
(3) NFPA 255.
(4) NFPA 259.
(5) ANSI B31.3.
(6) ANSI Z49.1.
(7) ASTM B 88.
(8) ASTM E 136.
(9) ANSI/CGA C4.
(10) ANSI/CGA V1.
(11) CGA G1.6.
(12) CGA E-1.
(13) CGA E-3.

(c) The following documents referenced in NFPA 51 are adopted and are enforceable:

(1) NFPA 13 as adopted in 675 IAC 13-1-8.
(2) NFPA 15 as adopted in section 8 of this rule.
(3) NFPA 50 as adopted in section 16 of this rule.
(4) NFPA 51B as adopted in section 20 of this rule.
(5) NFPA 58 as adopted in 675 IAC 22-2.2-14.
(6) NFPA 70 as adopted in 675 IAC 17.
(7) ASME Boiler and Pressure Vessel Code, as adopted at 680 IAC 2-1-1 [675 IAC 30-1-1].

(d) Delete Section 1.3 in its entirety without substitution.

(e) Amend Section 1.4 by deleting in its entirety and substituting "See 675 IAC 12-6-11.".

(f) Delete Section 1.6.1 in its entirety without substitution.

(g) Amend Chapter 3 as follows:

(1) Amend the following definitions:

APPROVED means acceptance by the authority having jurisdiction by one (1) of the following methods:

(1) Investigation or tests conducted by nationally recognized authorities; or

(2) Investigation or tests conducted by nationally recognized technical or scientific organizations; or

(3) Nationally accepted principles.

The investigation, tests, or principles shall establish that the method, material, equipment, design, or type of construction is safe for its intended purpose.

AUTHORITY HAVING JURISDICTION means the Division of Fire and Building Safety or officer of a local unit of government empowered by law to administer and enforce the rules of the commission.

LABELED means equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization engaged in product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

LIMITED-COMBUSTIBLE MATERIALS means a material not complying with the definition of noncombustible material, which, in the form in which it is used, has a potential heat value not exceeding three thousand five hundred (3,500) Btu per lb (8,141 lJ/kg) and complies with one (1) of the following paragraphs (a) or (b). Materials subject to increase in combustibility or flame spread rating beyond the limits herein established through the effects of age, moisture, or other atmospheric condition shall be considered combustible.

(a) Materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of one-eighth (1/8) inch (3.2 mm) that has a flame spread rating not greater than fifty (50).

(b) Materials, in the form and thickness used, other than as described in (a), having neither a flame spread rating greater than twenty-five (25) nor evidence of continued progressive combustion and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame spread rating greater than twenty-five (25) nor evidence of continued progressive combustion.

LISTED means equipment or materials included in a list published by an organization engaged in product evaluation, that maintains periodic inspection of production of listed equipment or materials, and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NONCOMBUSTIBLE MATERIAL, as applied to building construction materials, means a material which, in the form in which it is used, is either one (1) of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E 136 shall be considered noncombustible.

2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over one-eighth (1/8) inch (3.2 mm) thick which has a flame-spread rating of fifty (50) or less.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances, or other sources of high temperature shall consist of material conforming to Item 1. No material shall be classed as noncombustible that is subject to increase in combustibility or flame-spread rating, beyond the limits herein established, through the effects of age, moisture, or other atmospheric condition. Flame-spread rating as used herein refers to rating obtained according to tests conducted as specified in ASTM E 84-99.

(2) Add the following definitions:

DIVISION OF FIRE AND BUILDING SAFETY means the Division of Fire and Building Safety of the Indiana Department of Homeland Security created pursuant to IC 10-19-2.

BUILDING CODE means the Indiana Building Code in effect in Indiana at the time of construction, remodeling, alteration, addition, or repair of the structure.

MECHANICAL CODE means the Indiana Mechanical Code in effect in Indiana at the time of construction, remodeling, alteration, addition, or repair of the structure.

NFPA 70 means the Indiana Electrical Code (675 IAC 17).

(h) Delete subsection 3.2.6 in its entirety without substitution.

(i) Amend Section 4.1.1 to read "Cylinders shall be designed, fabricated, tested, and marked (stamped) in accordance with the rules of the commission.".

(j) Amend Section 4.2.2 to read as follows: Separate rooms or buildings used for gas cylinder storage shall be provided with natural or mechanical ventilation designed in accordance with the building code and the mechanical code. Ventilation systems shall discharge a minimum of fifty (50) feet (15 m) from intakes of air handling systems, air conditioning equipment, and air compressors.

(k) In Section 5.1.3, amend the last sentence to read: Such buildings or rooms shall be in accordance with the building code (675 IAC 13).

(l) Amend Section 5.2.4, Exception, to read as follows:

Exception: An oxygen manifold to which cylinders having an aggregate capacity of more than six thousand five hundred (6,500) cubic feet (168 m3) of oxygen are connected shall be located as follows:

(1) Outdoors, or

(2) In a separate building constructed in accordance with the building code, or

(3) If located inside a building having occupancy other than that directly associated with the production of acetylene, the storage of calcium carbide, or the storage and manifolding of fuel gases used in welding and cutting, shall be in either a separate room constructed in accordance with the building code or in an area with no combustible material within twenty (20) feet (6 m) of the manifold.

(m) Amend Section 6.3.1 to read as follows: Piping shall be protected against corrosion and physical damage. Piping under buildings or foundations shall be provided with a vented casing or located in a well-ventilated tunnel.

(n) In Section 6.5.1, delete "in accordance with ANSI B31.1, Chemical plant and Petroleum Refinery Piping.".

(o) In Section 8.4.1.2, delete "adequate" and substitute "approved".

(p) In Section 8.4.1.4, delete "adequate" and substitute "approved".

(q) In Section 8.4.2, delete "sufficient" without substitution and add at the end of the sentence "in accordance with the manufacturer's instructions".

(r) Amend Section 8.5.1.1 to read as follows: Construction of outside generator houses and inside generator rooms for stationary acetylene generators shall be in accordance with the Indiana Building Code (675 IAC 13).

(s) Delete Section 8.5.1 in its entirety and substitute "Construction: Construction shall be performed in accordance with the building code and fire code.".

(t) Amend Section 8.5.2 to read as follows: Ventilation. Inside generator rooms or outside generator houses shall be ventilated in accordance with the Indiana Building Code (675 IAC 13) and the Indiana Mechanical Code (675 IAC 18).

(u) Chapter 2 and the annexes are not adopted as part of this code and are intended for use as a guide, and the standards referenced therein are not enforceable as part of this code.

(Fire Prevention and Building Safety Commission; 675 IAC 28-1-18; filed Aug 23, 2006, 4:03 p.m.: 20060906-IR-675050104FRA; readopted filed Aug 8, 2012, 8:08 a.m.: 20120905-IR-675120260RFA; readopted filed Jul 3, 2018, 2:22 p.m.: 20180801-IR-675180204RFA)